

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 9806838

Insp Area: 2

Site Address: 6308 SEASTONE WY SAC

Parcel No: 0300415015

Sub-Type: RES

Housing (Y/N): N

CONTRACTOR

ZIMMERMAN ROOFING
3560 RAMONA AV
SACRAMENTO, CA

95826

OWNER

LYON ROBERT A
6308 SEASTONE WY
SACRAMENTO CA

95831

ARCHITECT

Nature of Work: T/O AND REROOF 34 SQS WITH TILE

CONSTRUCTION LENDING AGENCY : I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C).

Lender's Name _____ Lender's Address _____

LICENSED CONTRACTORS DECLARATION: I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with section 7000) of Division 3 of the Business and Professions Code and my license is in full force and effect.

License Class C-37 License Number 557559 Date 7-24-98 Contractor Signature Jilly Coy

OWNER-BUILDER DECLARATION: I hereby affirm under penalty of perjury that I am exempt from the contractors License Law for the following reason (Sec. 7031.5, Business and Professions Code; any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 (commencing with Section 7000) of Division 8 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars (\$500.00);

____ I, as a owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professional Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his/her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he/she did not build or improve for the purpose of sale.)

____ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law).

____ I am exempt under Sec. _____ B & PC for this reason: _____

Date _____ Owner Signature _____

IN ISSUING THIS BUILDING PERMIT, the applicant represents, and the city relies on the representation of the applicant, that the applicant verified all measurements and locations shown on the application or accompanying drawings and that the improvement to be constructed does not violate any law or private agreement relating to permissible or prohibited locations for such improvements. This building permit does not authorize any illegal location of any improvement or the violation of any private agreement relating to location of improvements.

I certify that I have read this application and state that all information is correct. I agree to comply with all city and county ordinances and state laws relating to building construction and hereby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 7-24-98 Applicant/Agent Signature Jilly Coy

WORKER'S COMPENSATION DECLARATION: I hereby affirm under penalty of perjury one of the following declarations:

____ I have and will maintain a certificate of consent to self-insure for workers' compensation as provided for by Section 3700 of the Labor Code, for the performance of work for which the permit is issued.

I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier State Fund Policy Number 713970002021 Exp-10-1-98

____ (This section need not be completed if the permit is for \$100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Date 7-24-98 Applicant Signature Jilly Coy

WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000) IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST AND ATTORNEY'S FEE.

THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK IS NOT COMMENCED WITHIN 180 DAYS.



DEPARTMENT OF
PLANNING AND DEVELOPMENT

CITY OF SACRAMENTO
CALIFORNIA

1231 I STREET
ROOM 200
SACRAMENTO, CA
95814-2998

Permit Service
916-264-7619
FAX 916-264-7036

Bob Lyon
6308 Seastone
95831

TILE ROOF WORKSHEET

This worksheet must be filled out whenever any type of tile roof is applied for.

If the answer to question #5 is yes, a written engineering report from a registered engineer must be provided with each application.

1. BRAND AND MODEL OF TILE MONIER Durabrite Villa
2. TILE WEIGHT PER SQUARE 580
3. WEIGHT OF ROOF SYSTEM PER SQUARE 180
4. TOTAL WEIGHT OF ROOF SYSTEM 760
5. DOES TOTAL WEIGHT OF ROOF SYSTEM EXCEED 750# PER SQUARE? YES NO
6. ROOF SLOPE 4/12

PLEASE PROVIDE A SEPARATE WORKSHEET FOR EACH APPLICATION INVOLVING A TILE ROOF.

All attached engineering

Paul Zacher-Structural Engineers

4701 Lakeside Way
Fair Oaks, CA 95628

TEL: 916.961.3960
FAX: 916.961.3960
e-mail: pzacher@softcom.net

July 6, 1998

Zimmerman Roofing
3560 Ramona Avenue
Sacramento, CA 95826
TEL: 916.454.3667
FAX: 916.455.3784
TEL (Jeff): 916.392.1971
FAX (Jeff): 916.392.6853
FAX (Framer) : 916.383.5308

Attn.: Mr. Jeff Tucker,

re: Job 98134: LYON

Subject: Structural Investigation Report of the Roof for the Residence located at 6308 Seastone way, Sacramento, CA 95831.

As requested by Mr. Jeff Tucker, this is a report to determine what needs should be addressed to correct any structural deficiencies of the roof. Paul Zacher visited the site July 3, 1998. The investigation was made to determine the existing condition of the structure. All information, data and analysis contained within this report is based on the 1994 Uniform Building Code.

The following is based on visual observations with no subsurface investigation being made.

DESCRIPTION:

Type of Facility: Residence.
Year Built: Estimated 1970's vintage.
Occupancy: Residential.
No. of Stories: One.
Dimensions: Approximately 1800 square feet with a first story plate height of 8 feet.

CONSTRUCTION:

Roof:

The roof covering will consist of Monier Villa Duralite Tile over 1/2" solid sheathing. The living area is conventionally framed with 2x4 rafters spaced at 24" on center with 2x6 purlins supported at no more than 10'-0" on center by 2x4 struts bearing on walls below except over the vaulted ceiling area. The vaulted ceiling is constructed of 4x6 beams spaced at 3'-6" on center.

1/13

The garage area is framed with 2x4 rafters spaced at 24" on center and 2x6 cross ties spaced at 4'-0" on center.

CONCLUSIONS:

Roof:

The living and garage areas lack sufficient structural capacity for the applied live and dead loads.

RECOMMENDATIONS:

If any of the following recommendations do not correspond to actual field conditions, the engineer of record shall be notified for further investigation and evaluation before continuing work.

Living Area:

1. Scab a 2x12 DF#2 x 10'-0" long purlin adjacent to the existing 2x6 purlin which spans 10'-0". Attach it with 16d's @ 3" on center. Support the 2x12 to the bearing walls below with 2x4 struts. See details 1 and 3.
2. Provide an additional 2x4 strut from the existing purlin to the bearing wall below. The maximum spacing between the new and existing struts shall not exceed 6'-0" on center. The unbraced length of the struts shall not exceed 8'-0" and the minimum slope of the struts shall not be less than 45 degrees from the horizontal. See detail 1.

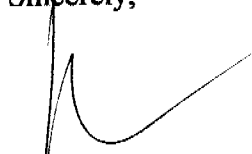
Garage:

3. Scab a 1 3/4" x 11 7/8" microlam beam to the existing 2x6 crosstie and nail together with 16d's @ 12" oc. The support at the walls shall be a 2x8 x 2'-8" long nailer attached to the double top plate with 16d's @ 2" oc staggered. Support the existing purlin to the microlam beam with 2x4 struts spaced at no more than 4'-0" oc. See details 1,2 and 4.

The inspection consisted of visual observation only, made solely to determine the structural capacity of the existing roof. Analysis does not determine any effects on the overall structure under lateral forces or effects on the foundation unless specifically noted in the calculations and in this document. No warranties, expressed or implied, are made or intended in conjunction with this report. The inspection was made only to the portions that were accessible. The specific items noted were those that were observable and there may be defects which are not observable, or are hidden by architectural and structural materials.

If you have any questions on the above, do not hesitate to call.

Sincerely,



Paul Zacher, P.E., S.E.

file



DESIGN LOADING:

Roof Pitch	4	in 12
Pitch Adjustment Factor	1.05	

LOCATION: ROOF

<u>MATERIAL</u>	<u>WEIGHT</u>	
Monier Villa Duralite	5.80	psf
Roofing felt	0.30	psf
1x4 skip sht'g	1.09	psf
1/2" OSB/ plywood	1.50	psf
2x6 rafters @ 24" oc	<u>1.00</u>	psf
Load	9.7	psf
Roof Pitch Adjustment	<u>0.52</u>	psf
Total Load	10.2	psf

LOCATION: VAULT

<u>MATERIAL</u>	<u>WEIGHT</u>	
Monier Villa Duralite	5.80	psf
Roofing felt	0.30	psf
1/2" OSB/ plywood	1.50	psf
1x4 skip sht'g	1.09	psf
2x8 rafters @ 16" oc	1.99	psf
Batt/blown insul	0.50	psf
1/2" Gypboard	<u>2.50</u>	psf
Load	13.7	psf
Roof Pitch Adjustment	<u>0.74</u>	psf
Total Load	14.4	psf

BEAM DESIGN FOR UNIFORM LOAD: 2x12 purlin

(Values for DF Larch #2)

Width, b	1.5 inches
Depth, d	11.25 inches
Length of beam	10 feet
Dead load roof	10.2 psf
Live load roof	16 psf
Contributory width of roof load	10 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Dead load wall	0 plf
Live load defl ratio	240
Total load defl ratio	180
Total dead load	102 plf
Total live load	160 plf

Base design values:

Shear, Fv	95 psi
Bending, Fb	875 psi
Comp. perp. to grain, Fc	625 psi
Mod of Elasticity, E	1700000 psi
Load duration factor, Cd	1.25
Size Factor, Cf	1.00
Repetitive factor, Cr	1.15

Dead load reaction	510 lbs
Live load reaction	800 lbs
Total load reaction	1310 lbs

Allowable shear, Fv'	119 psi
Actual shear, fv	95 psi
Allowable bending, Fb'	1258 psi
Actual bending, fb	1242 psi
Allowable live load defl	0.50 inches
Actual live load defl	0.12 inches
Allowable total load defl	0.67 inches
Actual total load defl	0.19 inches

Bearing length req'd	1.40 inches
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Horizontal Shear OK

Bending OK

Live Load Deflection OK

Total Load Deflection OK

BEAM DESIGN FOR UNIFORM LOAD: 2x4

(Values for DF Larch #2)

Width, b	1.5 inches
Depth, d	3.5 inches
Length of beam	8 feet
Dead load roof	10.2 psf
Live load roof	16 psf
Contributory width of roof load	2 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Dead load wall	0 plf
Live load defl ratio	240
Total load defl ratio	180
Total dead load	20.4 plf
Total live load	32 plf

Base design values:

Shear, Fv	95 psi
Bending, Fb	875 psi
Comp. perp. to grain, Fc	625 psi
Mod of Elasticity, E	1700000 psi
Load duration factor, Cd	1.25
Size Factor, Cf	1.50
Repetitive factor, Cr	1.15

Dead load reaction	82 lbs
Live load reaction	128 lbs
Total load reaction	210 lbs

Allowable shear, Fv'	119 psi
Actual shear, fv	56 psi
Allowable bending, Fb'	1887 psi
Actual bending, fb	1643 psi
Allowable live load defl	0.40 inches
Actual live load defl	0.32 inches
Allowable total load defl	0.53 inches
Actual total load defl	0.53 inches

Bearing length req'd	0.22 inches
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Horizontal Shear OK

Bending OK

Live Load Deflection OK

Total Load Deflection OK

BEAM DESIGN FOR UNIFORM LOAD:

(Values for DF Larch #1)

Width, b	3.5 inches
Depth, d	9.25 inches
Length of beam	11.5 feet
Dead load roof	10.2 psf
Live load roof	16 psf
Contributory width of roof load	7.5 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Dead load wall	0 plf
Live load defl ratio	240
Total load defl ratio	180
Total dead load	76.5 plf
Total live load	120 plf

Base design values:

Shear, Fv	95 psi
Bending, Fb	1000 psi
Comp. perp. to grain, Fc	625 psi
Mod of Elasticity, E	1600000 psi
Load duration factor, Cd	1.25
Size Factor, Cf	1.20

Dead load reaction	440 lbs
Live load reaction	690 lbs
Total load reaction	1130 lbs

Allowable shear, Fv'	119 psi
Actual shear, fv	45 psi
Allowable bending, Fb'	1500 psi
Actual bending, fb	781 psi
Allowable live load defl	0.58 inches
Actual live load defl	0.13 inches
Allowable total load defl	0.77 inches
Actual total load defl	0.21 inches

Bearing length req'd 0.52 inches

Horizontal Shear OK

Bending OK

Live Load Deflection OK

Total Load Deflection OK

BEAM DESIGN FOR UNIFORM LOAD: 4x8 vault

(Values for DF Larch #1)

Width, b	3.5 inches
Depth, d	7.25 inches
Length of beam	16 feet
Dead load roof	14.4 psf
Live load roof	16 psf
Contributory width of roof load	3.5 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Dead load wall	0 plf
Live load defl ratio	360
Toal load defl ratio	240
Total dead load	50.4 plf
Total live load	56 plf

Base design values:

Shear, Fv	95 psi
Bending, Fb	1000 psi
Comp. perp. to grain, Fc	625 psi
Mod of Elasticity, E	1700000 psi
Load duration factor, Cd	1.25
Size Factor, Cf	1.30

Dead load reaction	403 lbs
Live load reaction	448 lbs
Total load reaction	851 lbs

Allowable shear, Fv'	119 psi
Actual shear, fv	47 psi
Allowable bending, Fb'	1625 psi
Actual bending, fb	1333 psi
Allowable live load defl	0.53 inches
Actual live load defl	0.44 inches
Allowable total load defl	0.80 inches
Actual total load defl	0.83 inches

Horizontal Shear OK

Bending OK

Live Load Deflection OK

Beam Fails under Total Load Deflectio
OK. Less than 1/32" over

Bearing length req'd 0.39 inches

BEAM DESIGN FOR UNIFORM LOAD: 6x10

(Values for DF Larch #1)

Width, b	5.5 inches
Depth, d	9.5 inches
Length of beam	14 feet
Dead load roof	14.4 psf
Live load roof	16 psf
Contributory width of roof load	8 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Dead load wall	0 plf
Live load defl ratio	360
Total load defl ratio	240
Total dead load	115.2 plf
Total live load	128 plf

Base design values:

Shear, Fv	85 psi
Bending, Fb	1350 psi
Comp. perp. to grain, Fc	625 psi
Mod of Elasticity, E	1600000 psi
Load duration factor, Cd	1.25
Size Factor, Cf	1.00

Dead load reaction	806 lbs
Live load reaction	896 lbs
Total load reaction	1702 lbs

Allowable shear, Fv'	106 psi	Horizontal Shear	OK
Actual shear, fv	43 psi		
Allowable bending, Fb'	1688 psi	Bending	OK
Actual bending, fb	864 psi		
Allowable live load defl	0.47 inches	Live Load Deflection	OK
Actual live load defl	0.18 inches		
Allowable total load defl	0.70 inches	Total Load Deflection	OK
Actual total load defl	0.33 inches		
Bearing length req'd	0.50 inches		

MICROLAM BEAM DESIGN FOR UNIFORM LOAD:

Width	1.75 inches
Depth	11.875 inches
Length of beam	20 feet
Dead load roof	10.2 psf
Live load roof	16 psf
Contributory width of roof load	6 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Dead load wall	0 plf
Live load defl ratio	240
Total load defl ratio	180
Total dead load	61.2 plf
Total live load	96 plf

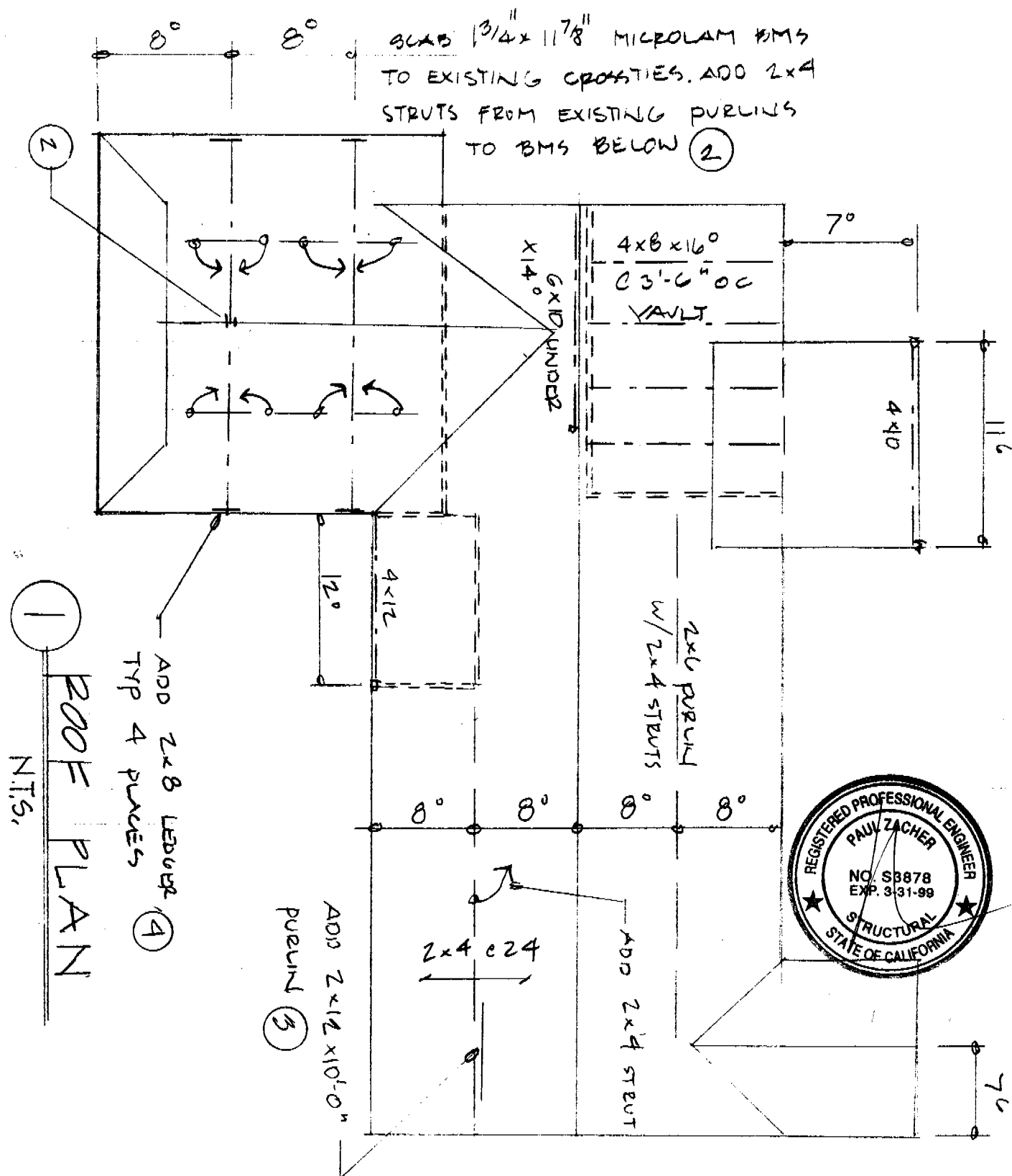
Base design values:

Shear, F_v	285 psi
Bending, F_b	2600 psi
Comp. perp. to grain, F_c	750 psi
Mod of Elasticity, E	1800000 psi
Load duration factor, C_d	1.25
Volume factor, C_v	1.00

Dead load reaction	612 lbs
Live load reaction	960 lbs
Total load reaction	1572 lbs

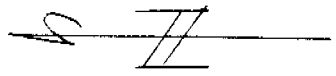
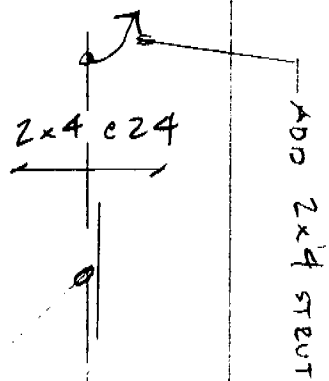
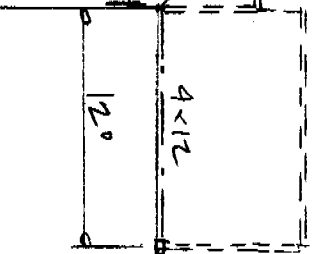
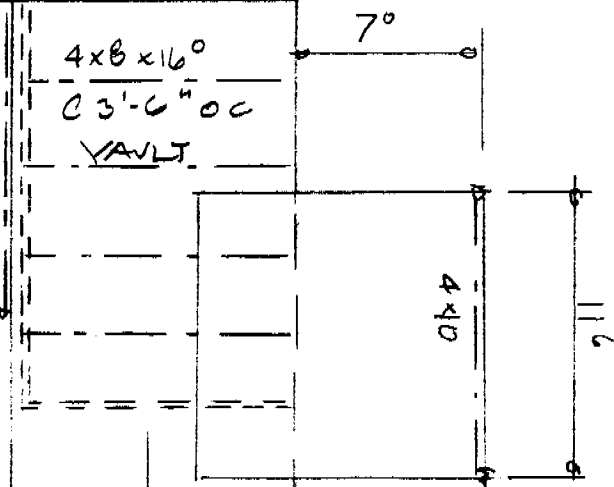
Allowable shear, F_v'	356 psi	Horizontal Shear	OK
Actual shear, f_v	102 psi		
Allowable bending, F_b'	3250 psi	Bending	OK
Actual bending, f_b	2293 psi		
Allowable live load defl	1.00 inches	Live Load Deflection	OK
Actual live load defl	0.79 inches		
Allowable total load defl	1.33 inches	Total Load Deflection	OK
Actual total load defl	1.29 inches		

Bearing length req'd 1.20 inches



SCAB 1 3/4" x 1 7/8" MICROLAM BMS TO EXISTING CROSSIES. ADD 2x4 STRUTS FROM EXISTING PURLINS TO BMS BELOW (2)

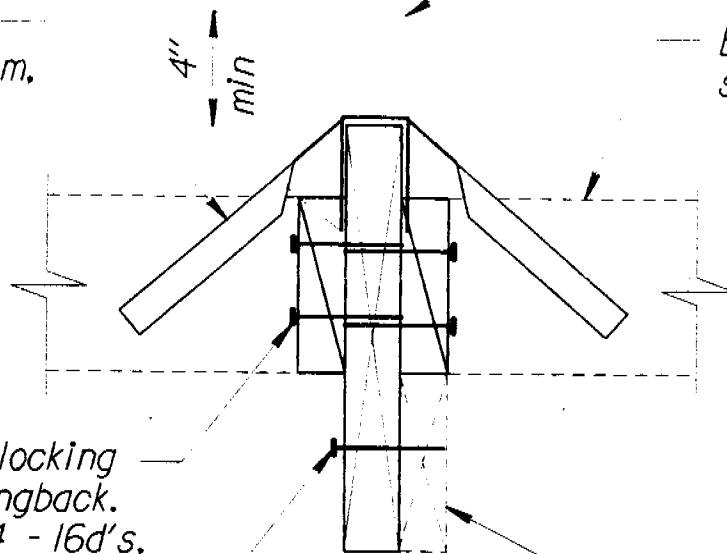
4x12 GIRD UNDER



Simpson TS18,
strongback to beam,
each side

Strut not shown
(where occurs)

Existing 2x
strongback



2x6 x 1'-0" long blocking
both sides of strongback.
Nail to beam w/ 4 - 16d's,
typical each side of beam

Existing 2x cross tie
or ceiling joist

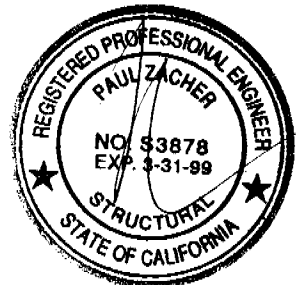
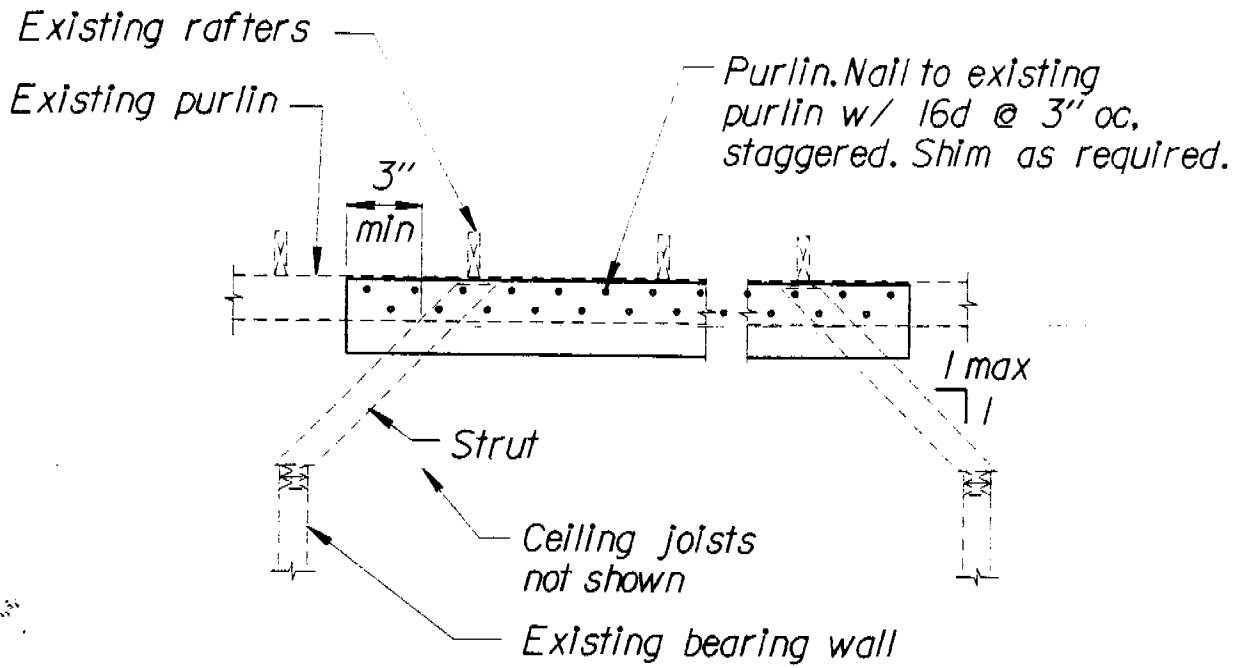
Beam. Nail to cross tie/
ceiling joist w/ 16d @ 12" oc



2

BEAM DETAIL

NO SCALE



3

PURLIN DETAIL

LEDGER DESIGN:

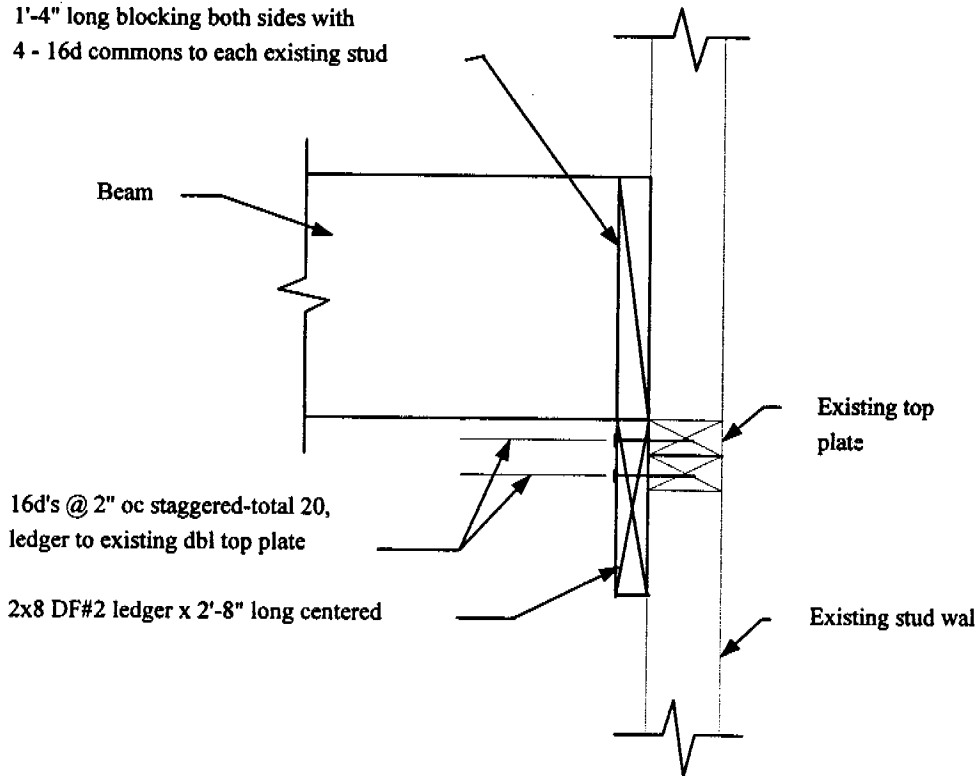
WOOD TO WOOD CONNECTION: Ledger to double top plate

Assumptions:

1. Point load from beam is equally distributed to each supporting stud.
2. Allowable foundation pressure is 1000 plf.

Ledger width, b	1.5 inches	
Ledger depth, d	7.25 inches	
Maximum reaction	1572 lbs	
Base design values:		
Shear, Fv	95 psi	
Bending, Fb	875 psi	
Comp. perp. to grain, Fc	625 psi	
Mod of elasticity, E	1600000 psi	
Load duration factor, Cd	1.25	
Size factor, Cf	1.20	
Allowable shear, Fv'	119 psi	Horizontal Shear OK
Actual shear, fv	58 psi	
Allowable bending, Fb'	1313 psi	Bending OK
Actual bending, fb	119 psi	
Length of ledger required	1.572 feet	
Length of ledger used	2.67 feet	
Number of nails required	20 16d sinkers ledger to top plate	

1'-4" long blocking both sides with
4 - 16d commons to each existing stud



④ **DETAIL**
N.T.S

